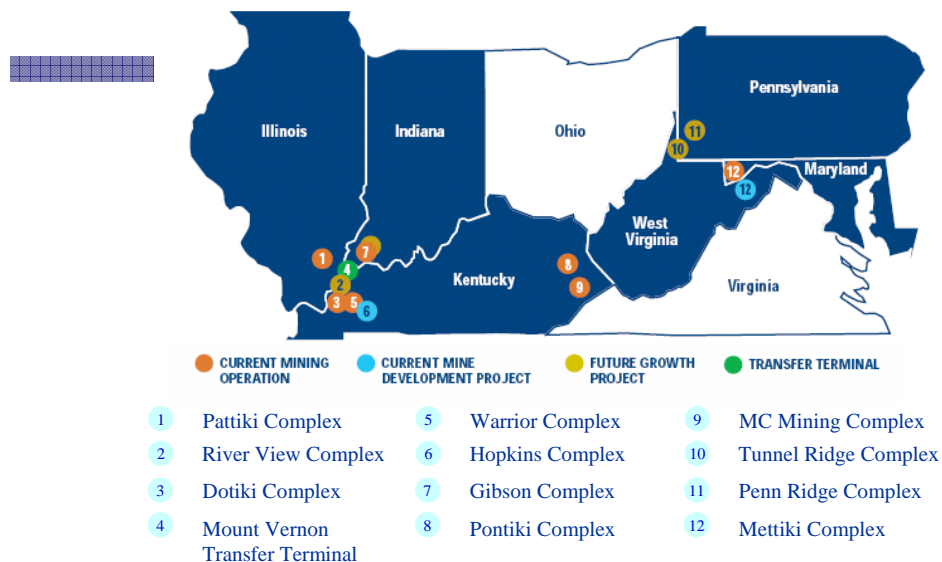


The Future of Coal as it Relates to Kentucky's Environment

Energy Issues in the Commonwealth
Environmental Quality Commission
Public Meeting
5/10/07

Rusty Ashcraft
Manager, Environmental Affairs & Permitting
Alliance Coal, LLC

Alliance Resource Partners, L.P. Snapshot



➤ ARLP is a diversified producer and marketer of coal to major U.S. utilities and industrial users

- ❖ Fourth largest eastern coal producer and ninth largest in the U.S. ^(a)
- ❖ Only publicly-traded master limited partnership involved in the production and marketing of coal

➤ At 1/1/06, ARLP had approximately 549.0 million tons of proven and probable coal reserves in the Illinois Basin, Central Appalachia and Northern Appalachia regions

➤ On April 12, 2006, ARLP announced the acquisition of River View, adding 99.3 million tons of reserves

Trading Information

ARLP

Unit Price at 05/08/07:	\$39.95
Current Annualized Distribution:	\$2.16
Current Yield:	5.41%
Equity Market Value:	~\$1.46B

^(a) Source: Platts coal data for 2006

Coal Mine Environmental Compliance includes:

- Hazardous Materials Transportation Act
- Transportation Act
- Bald and Golden Eagle Protection Act
- Archeological Resources Protection Act
- Antiquities Act
- Endangered Species Act
- Federal Insecticide, Fungicide and Rodenticide Act
- Natural Gas Pipeline Safety Act
- Hazardous Liquid Pipeline Safety Act
- Rivers and Harbors Act
- Noise Control Act
- Federal Land Policy Management Act
- Clean Air Act
- Clean Water Act
- CERCLA (Superfund)
- EPCRA
- RCRA
- Safe Drinking Water Act
- Toxic Substances Control Act
- Surface Mining Control and Reclamation Act
- Homeland Security/Safe Explosives Act

Emerging Issues

- 404 CWA Issues – Rapanos/Chambers
- ESA – Indiana Bat
- Clean Water Act Section 402 Issues
- Clean Air Act
- Permitting Issues
- Conclusion

Rapanos Decision & Guidance?

- It appears that the COE and EPA have attempted to define "significant nexus" in a manner similar to the 7th Circuit decision in U.S. v. Gerke Excavating. This decision said,....
- “[W]etlands possess the requisite nexus, and thus come within the statutory phrase ‘navigable waters,’ if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as ‘navigable.’ When, in contrast, wetlands’ effects on water quality are speculative or insubstantial, they fall outside the zone fairly encompassed by the statutory term ‘navigable waters.’ ”
- *“Everything is Jurisdictional”*

Jurisdictional Determinations vs. Functional Assessments

- Jurisdictional Determinations
 - “one drop of water meets second drop of water”
 - Field visit or consultant determination
 - Rapanos Guidance?
- Examples of Functional Assessments
 - HGM (Hydrogeomorphic Model)
 - Louisville Stream Protocol
 - N. Virginia Stream Assessment Protocol
 - EPA Solicitation for Development of Rapid Functional Assessment for Headwater Streams

High Gradient Stream Data Sheet

STREAM NAME:		LOCATION:																
STATION #:		MILE:																
BASIN/WATERSHED:																		
LAT.:	LONG.:	COUNTY:	USGS 7.5 TOPO:															
DATE:	TIME: <input type="checkbox"/> AM <input type="checkbox"/> PM	INVESTIGATORS:																
TYPE SAMPLE: <input type="checkbox"/> P-CHEM <input type="checkbox"/> Macroinvertebrate <input type="checkbox"/> FISH <input type="checkbox"/> BACT.																		
WEATHER: <table border="0"> <tr> <td>Now</td> <td>Past 24 hours</td> <td>Has there been a heavy rain in the last 7 days?</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/> Heavy rain</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/> Steady rain</td> <td>Air Temperature _____ °C. Inches rainfall in past 24 hours ____ in.</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/> Intermittent showers</td> <td>_____ % Cloud Cover</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/> Clear/sunny</td> <td></td> </tr> </table>				Now	Past 24 hours	Has there been a heavy rain in the last 7 days?	<input type="checkbox"/>	<input type="checkbox"/> Heavy rain	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> Steady rain	Air Temperature _____ °C. Inches rainfall in past 24 hours ____ in.	<input type="checkbox"/>	<input type="checkbox"/> Intermittent showers	_____ % Cloud Cover	<input type="checkbox"/>	<input type="checkbox"/> Clear/sunny	
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<input type="checkbox"/>	<input type="checkbox"/> Intermittent showers	_____ % Cloud Cover																
<input type="checkbox"/>	<input type="checkbox"/> Clear/sunny																	
P-Chem: Temp (°C) _____ D.O. (mg/l) _____ % Saturation _____ pH (S.U.) _____ Cond. _____ <input type="checkbox"/> Grab																		
INSTREAM WATERSHED FEATURES: Stream Width _____ ft Range of Depth _____ ft Average Velocity _____ ft/s Discharge _____ cfs Est. Reach Length _____		LOCAL WATERSHED FEATURES: <u>Predominant Surrounding Land Use:</u> <input type="checkbox"/> Surface Mining <input type="checkbox"/> Construction <input type="checkbox"/> Forest <input type="checkbox"/> Deep Mining <input type="checkbox"/> Commercial <input type="checkbox"/> Pasture/Grazing <input type="checkbox"/> Oil Wells <input type="checkbox"/> Industrial <input type="checkbox"/> Silviculture <input type="checkbox"/> Land Disposal <input type="checkbox"/> Row Crops <input type="checkbox"/> Urban Runoff/Storm Sewers																
Hydraulic Structures: <input type="checkbox"/> Dams <input type="checkbox"/> Bridge Abutments <input type="checkbox"/> Island <input type="checkbox"/> Waterfalls <input type="checkbox"/> Other _____		Stream Flow: <input type="checkbox"/> Dry <input type="checkbox"/> Pooled <input type="checkbox"/> Low <input type="checkbox"/> Normal <input type="checkbox"/> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> High <input type="checkbox"/> Very Rapid or Torrential <input type="checkbox"/> Ephemeral <input type="checkbox"/> Seep																
Riparian Vegetation: Dom. Tree/Shrub Taxa _____ Dominate Type: <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Number of strata _____		Canopy Cover: <input type="checkbox"/> Fully Exposed (0-25%) <input type="checkbox"/> Partially Exposed (25-50%) <input type="checkbox"/> Partially Shaded (50-75%) <input type="checkbox"/> Fully Shaded (75-100%)																
Channel Alterations: <input type="checkbox"/> Dredging <input type="checkbox"/> Channelization <input type="checkbox"/> Full <input type="checkbox"/> Partial																		
Substrate <input type="checkbox"/> Est. <input type="checkbox"/> P.C.	Rifle _____ %	Run _____ %	Pool _____ %															
Silt/Clay (<0.06 mm)																		
Sand (0.06 – 2 mm)																		
Gravel (2-64 mm)																		
Cobble (64 – 256 mm)																		
Boulders (>256 mm)																		
Bedrock																		
Habitat	Condition Category																	
Parameter	Optimal	Suboptimal	Marginal	Poor														
1. Epifaunal Substrate/Available Cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover, mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.														
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0														
2. Embeddedness	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.														
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0														
3. Velocity/Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Slow is < 0.3 m/s, deep is > 0.5 m.)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/depth regime (usually slow-deep).														
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0														

High Gradient Stream Data Sheet (page 2)

4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 5% (<20% for low-gradient streams) of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% (20-50% for low-gradient) of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% (50-80% for low-gradient) of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% (80% for low-gradient) of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr.) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected. Note: determine left or right side by facing downstream.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0

Total Score



U.S. Environmental Protection Agency Ecological Exposure Research

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Development of Rapid Functional Assessment Methods for Headwater Streams

Objective:

Develop rapid field methods to assess functional attributes of headwater streams.

Approach:

- Assess the relationship between functional measures and the more traditionally-used structural characteristics.
- Evaluate effectiveness of rapid field methods to more time-intensive methods of measuring ecosystem functions in headwater streams across disturbance and hydrologic gradients.
- Functional measures include: organic matter breakdown, retention of organic matter, energy management, nutrient transport/uptake, benthic metabolism, primary production, and secondary production.



Why This Research Is Needed:

According to Section 404 of the Clean Water Act the Army Corps of Engineers (COE) and the USEPA must fairly assess potential impacts to stream functions and values associated with proposed activities for mitigation purposes.

Regulatory offices evaluate thousands of permit applications each year. In many parts of the country these applications are associated with headwater streams, such as road building and mining activities. Under time and resource constraints, many regulatory programs have relied on various qualitative assessment protocols to efficiently evaluate permits.

These protocols measure the structure of headwater streams and do not directly measure the ecosystem functions. Structural properties are measures of the organization and composition of components in a system (e.g., diversity, abundance), whereas functional properties are measures of processes or rates (e.g., metabolism). Functional measures may be preferred to structural measures because they can be more directly linked to economic value and TMDL-development than structural measures, such as macroinvertebrate diversity. For example, low retention of organic matter in headwater streams would result in more of this material to be transported downstream, resulting in greater amounts of carbon available for bacterial breakdown, and causing severe decline in dissolved oxygen. This would have economic consequences to downstream fisheries.

Expected Outputs/Outcomes:

The USEPA will have the tools to begin assessing ecosystem function appropriately for the majority of streams and stream miles in the United States.

Contact: Ken Fritz - fritz.ken@epa.gov - Cincinnati, OH

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IMPACT OF JUDGE CHAMBERS' DECISION IN BULEN II

OVEC v. U.S. Army Corps of Engineers, Civ. No. 3:05-0784 (S.D. W. Va.)

- The U.S. District Court for the Southern District of West Virginia on March 23 issued a major ruling that will jeopardize many industries ability to obtain Clean Water Act (CWA) § 404 permits necessary to allow the discharge of fill material in connection with their activities. OVEC v. U.S. Army Corps of Engineers, Civ. No. 3:05-0784 (S.D. W. Va.) (Bulen II). The court found that the U.S. Army Corps of Engineers' (Corps) decisions to issue individual permits to mines did not satisfy the requirements of the CWA or the National Environmental Policy Act (NEPA).
- Will require:
 - A lengthy EIS in order to meet requirements of NEPA.
 - Precludes work in or near headwater streams unless the Corps develops a new functional assessment tool.
 - Casts Doubt on the Ability to Use Mitigation of Any Type.
 - Acceptance of On-site Mitigation Is Unlikely.
 - The Corps' Mitigation Formula of 1:1 Is No Longer Acceptable.
- The COE is not currently planning to appeal this decision.

Endangered Specie Act – Indiana Bat (*Myotis sodalis*)

- National Recovery Plan
Draft 4/13/07
- USFWS Ky Protocol
- Indiana Bat Workshop
June 21-22, 2007



Clean Water Act – Sec. 402

- Selenium
- Etc.

Clean Air Act

- PM & PM10

Permitting Issues

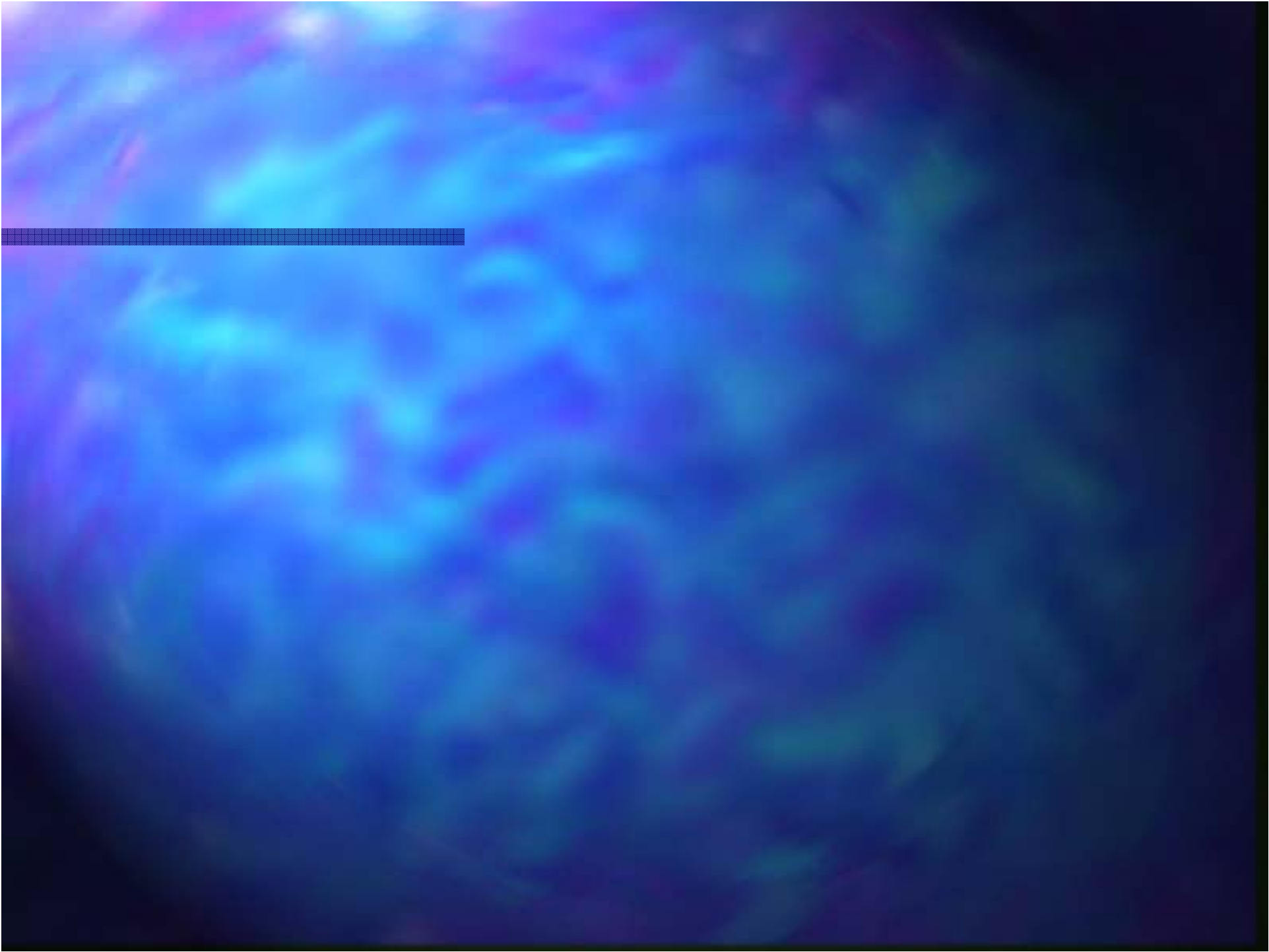
- Time Frames
- Inability to respond to rapid changes in the marketplace or energy demands

Conclusions

- Avoid Duplicitous Reviews
- Integrated Review

State

Federal



Alliance Coal, LLC

Examples of Environmental
Projects

Mettiki Coal Trout Rearing Facility



- Mettiki Coal, LLC and the Maryland Department of Natural Resources have taken advantage of ideal trout rearing conditions to develop a trout hatchery within the Mettiki AMD treatment Facility.
- Raise approximately 100,000 rainbow and brown trout per year.
- Due to high quality water and conditions MD DNR expects 1.5-2 times normal growth rate.
- Trout used to re-stock North Branch of Potomac River and other Maryland streams.
- Potential to be developed into largest hatchery in the tri-state area of W. MD, SW PA, and N. WV.

HCC Wetland Mitigation (Before)



- HCC disturbed approximately 660 acres of bottom-land hardwood wetlands during surface mining operations.
- Wetland mitigation consisted of combination of off-site and On-site development.
- Off-site mitigation ratio was established utilizing HGM. Approximately 2.3:1
- On-site Mitigation 660 acres
- Off-site Mitigation 1843.4 acres
- Chose "Prior Converted" agricultural lands due to existence of wetland Hydrology and hydric soils.

HCC Wetland Mitigation (After)



- All offsite mitigation areas have been re-established (approximately 1843.4 acres).
- Due to scarcity of hardwood species we collect acorns/seeds and have developed our own nursery. Currently have approximately 40,000 seedlings ready for planting.
- Tree growth has been exceptional 2-3 feet per year.
- Approximately 734 acres of off-site mitigation area has been released and transferred to KY Fish and Wildlife.

East Diamond Remining Project(Before)



- East Diamond Remining Project was initiated during 1998.
- HCC remined pre-SMCRA waste disposal area. Site covered approximately 150 acres and nearly 3.0 million cubic yards of acidic waste.
- Alliance entered into unique reclamation agreement with state and federal governments.
- Premine Water Quality – pH 2.9, Fe 1750 mg/l, high suspended solids
- Saved Abandoned Mine land Fund approximately \$4.0 million.

East Diamond Remining Project (After)



- East Diamond Remining Project was completed during 2003.
- Postmine Water Quality – pH 7.0, Fe 1.8 mg/l, less than 35.0 mg/l suspended solids
- Used as example nationwide for successful remining project.

Dollar Branch Mitigation Project (Before)



- Dollar Branch Mitigation Project conducted as East KY operations 404 mitigation. Covered approximately 200 acres.
- Postmine Water Quality – pH 3.5, Fe 1200 mg/l, high suspended solids
- Cooperative reclamation project partnered with bankrupt owner, bond company, state & federal agencies, and Environmental Groups to develop agreement.

Dollar Branch Mitigation Project (After)



- Site work completed during 2003.
- Postmine Water Quality – pH 7.8, Fe 1.0 mg/l, less than 35.0 mg/l suspended solids
- Used as example nationwide for successful 404 mitigation project.

Environmental Compliance Awards

1991 & 1994 - [United States Department on Interior](#), Office of Surface Mining - Excellence in Surface Coal Mining Reclamation – Finalists award of accomplishments in Reclamation.

1995 – [Governor of the State of Maryland](#) - Governor's Citation in recognition of the generous contributions of time, money, materials, equipment and expertise for the benefit of the Frazee Ash Demonstration Project at Winding Ridge in Garrett County, and as an expression of our admiration, gratitude and great respect for outstanding service to the citizens of Maryland.

1996 – [Maryland Department of Natural Resources](#) - Certificate of Appreciation for generous contribution to the Maryland Department of Natural Resources enabling the department to fulfill its mission to protect, renew and manage Maryland's precious natural resources.

1997 – [National Wild Turkey Federation](#) – Stewardship Award for creation of Wild Turkey habitat

1999 – [Cinergy](#) Environmental Excellence Award for an all encompassing Natural Resources Stewardship Program.

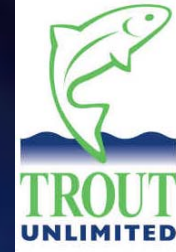
2000 – [American Fisheries Society](#) – 2000 Sport Fish Restoration Award, Honorable Mention for the Mettiki Coal, LLC/MDNR Cooperative Trout Rearing Facility.

2001 – Nemacolin Chapter, [Trout Unlimited](#) – Good Neighbor Award for distinguished service to conservation and commitment to the preservation of our Natural Resources.

1990- Present - Numerous State Reclamation Awards



Environmental Partnerships



- **American Heritage River's Program** - Alliance was instrumental in helping to secure the nomination of the Potomac River as the nation's first American Heritage River. Alliance was represented on the original Steering Committee that developed the nomination package and also contributed funds for the development of the nomination package.
- **Friends of the Potomac** - Alliance has been a charter member of the "Friends of the Potomac" since its inception and contributed start up funds.
- **Potomac Heritage Partnership** - Alliance is represented on the Board of the "Potomac Heritage Partnership", a nonprofit organization located in Georgetown. This organization secures grant monies for heritage projects such as rails to trails and others, for communities all along the Potomac River.
- **The Nature Conservancy** - Alliance has been a Corporate Associate of the MD-DC Chapter of the Nature Conservancy since 1998.
- **North Branch Potomac River Symposium** - Alliance was a major sponsor of and presenter at the Symposium which laid the ground work for environmental restoration of the upper North Branch of the Potomac.
- **Kempton Mine Project** - Alliance is represented on the Kempton work group and has been an active partner in most all activities related to the clean up of the old Kempton Mine in the upper North Branch of the Potomac.
- **Ducks Unlimited** - Alliance has been a contributing member of Ducks Unlimited for many years.
- **Appalachian Environmental Laboratory** - Alliance has had active representation on the Advisory Board for the University of Maryland Center for Environmental Science's Appalachian Laboratory for many years.
- **Richard A. Johnson Environmental Education Award** - Alliance is a major donor for this award and is represented on The Johnson Award Committee.
- **Maryland Bureau of Mines AMD Committee** - Alliance has had active representation and involvement on the AMD committee since its inception.
- **North Branch Task Force** - Alliance has had active representation and involvement on the North Branch Task Force since its inception.
- **Midwest Carbon Partnership (MRCSP)** – Alliance has had active representation and involvement in this DOE task force since its inception.